

Workshop for Proposed Regulation Amendments

Public Water Systems

NAC 445A.450 to 445A.5335 and 445A.65825 to 445A.67185

Nevada Division of Environmental Protection

Tonopah, NV ~ November 5, 2014

Elko, NV ~ November 6, 2014

Las Vegas, NV ~ November 13, 2014

Carson City, NV ~ November 18, 2014



NDEP Representatives

- **Bureau of Safe Drinking Water**

- ♦ Andrea Seifert, Supervisor

- aseifert@ndep.nv.gov 775-687-9526

- ♦ Margie Evans, ES III

- mevans@ndep.nv.gov 775-687-9516



Public Participation

- Ways to Participate and Comment
 - ♦ Questions and Comments today, or
 - ♦ By November 19, for NDEP consideration
 - 2 weeks prior to SEC Meeting (December 3, 2014)
 - Written Comments by letter:
Nevada Division of Environmental Protection
Bureau of Safe Drinking Water
901 South Stewart Street, Suite 4001
Carson City, NV 89701
 - E-mail us your Comments
 - Call to discuss your Comments



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Regulation Amendment Process

- Draft Regulation Available
 - ♦ Posted to SEC website, October 20, 2014
http://sec.nv.gov/main/hearing_1214.htm
- Workshops: November 2014
- State Environmental Commission (SEC) Hearing
 - ♦ December 3, 2014
 - ♦ Sign up at <http://www.sec.nv.gov/> to receive a notice



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Regulation Amendment Process



State of Nevada
Dept. of Conservation & Natural Resources
State Environmental Commission
901 South Stewart Street, Suite 4001 - Carson City, Nevada 89701

SEC Website Resources

- SEC Web Pages
- SEC Authorities
- Recent Meetings
- Appeal Hearings
- About The Commission (SEC)

Agendas, Minutes & Audio Recordings
Regulatory Hearing Only

Agendas, Minutes & Audio Files

Receive email notification of SEC hearings — Join Electronic Mailing List

SEC Meetings

Regulatory: The most recent meeting of the SEC was held on Wednesday, October 8th, 2014 in Carson City at the Bryan Building. The next meeting is scheduled for Wednesday, December 3rd, 2014.

Appeals: No appeal hearings are pending.

SEC Rules of Practice

Amended SEC Rules of Practice — On May 30, 2012 the Legislative Commission approved certain amendment to State Environmental Commission's (SEC) Rules of Practices. The amended rules update NAC 445B.875 to NAC 445B.895, which is the section in the Nevada Administrative Code (NAC) that governs the practices of the SEC in contested cases (i.e. appeal hearings). In general, the amended regulation

Overview of Proposed Amendments

- Adopt New Rules
- Adopt new Lead Free amendments
- Amendments to Design and Construction Regulations
 - ♦ Reference Provisions and Publications updated to current versions
- General “Clean-up”

Primacy...what's that?



Overview of Proposed Amendments

- Adoption of New Federal Regulations
 - ♦ Revised Total Coliform Rule
- Lead Free Amendments
 - ♦ Reduction of Lead in Drinking Water Act
 - ♦ Community Fire Safety Act



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Overview of Proposed Amendments

- Amendments to Design and Construction Regulations
 - ♦ Reference Provisions and Publications updated to current versions
- General Clean-up
 - ♦ Legislative Council Bureau



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Comments or Questions



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Revised Total Coliform Rule (RTCR)

- Total Coliform Rule Effective: 1990
- Decision to revise: 2003
- Advisory Committee Convened: July 2007
- Proposed Rule: July 14, 2010
 - ♦ Comments Due: October 13, 2010
- Final Rule: February 13, 2013
- Minor Corrections: February 26, 2014
- Effective: April 1, 2016



♦ http://water.epa.gov/lawsregs/rulesregs/sdwa/tcr/regulation_revisions.cfm

40 CFR Subpart Y



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Overview

- How RTCR Affects You
 - ♦ Monitoring
 - ♦ Violations and Triggers
 - ♦ Assessments
 - ♦ Seasonal Systems
 - ♦ Site Sampling Plans
- Your Input Needed



Primacy

- Section 2 of the Regulation Revision
 - ♦ Adopt Revised Total Coliform Rule (RTCR) by reference in Nevada Administrative Code (NAC) 445A.4525
- Section 3 of the Revision
 - ♦ Compliance mandated in NAC 445A.453



Overarching Goal

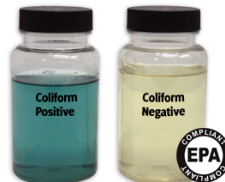
Improve public health protection
by reducing the pathways
through which fecal
contamination
and pathogens can enter the
distribution system



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Effective April 1, 2016

- *E. coli* Acute MCL
 - ♦ Violation – No Change
 - ♦ Treatment Technique – **Change**
- Confirmed Total Coliform
 - ♦ No Violation – **Change**
 - ♦ Treatment Technique – **Change**



40 CFR §141.859-860



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Monitoring

Non-Community Groundwater Systems

- Serving $\leq 1,000$ people
 - ♦ Quarterly routine monitoring
 - ♦ Each total coliform or *E. coli* is followed up with 3 repeat samples (repeat monitoring).
 - ♦ 3 temporary routine samples required following month



40 CFR §141.854



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Monitoring

Non-Community Groundwater Systems

Serving $> 1,000$

Community Systems

Surface Water Systems

- Monthly monitoring
- No special sampling the month following a hit



40 CFR §141.857



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Monitoring

Type	Population	Routine Minimum Sampling	Sample Frequency	Month Following TC+
All Surface Water	≤ 1,000	1	Monthly	Routine
Non-Community Groundwater	≤ 1,000	1	Quarterly	3
All Systems	> 1,000	1-30	Monthly	Routine
All Systems	> 33,000	40 +	Monthly	Routine
Seasonal	Any	1 +	Monthly	Routine



40 CFR §141.854-857



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E. Coli Acute Violations

- Any combination of EC+ Routine & Repeat samples

Routine

Repeat

EC+

TC+

EC+

No sample

EC+

EC+

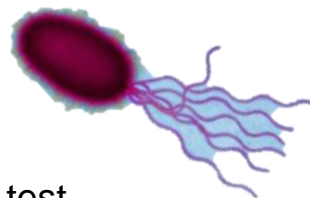
TC+

EC+

TC+

TC+ and no EC test

**Tier 1
Public
Notice**



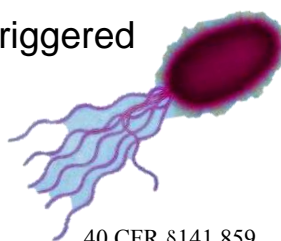
40 CFR §141.63



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E. Coli Acute Violations

- Follow-up Requirements
 - ♦ Acute MCL Violation
 - ♦ Tier 1 Public Notice
 - Boil Water Order
 - Issue w/in 24 hours
 - ♦ Treatment Technique Triggered
 - Level 2 Assessment



40 CFR §141.859



Confirmed Coliform

- No *E. coli*, **no violation**

No Public Notice

- Triggers Treatment Technique
 - ♦ A required process intended to eliminate the pathways for contaminants to enter the drinking water
 - ♦ Level 1 Assessment



40 CFR §141.859

Assessments

- Assessments
 - ♦ Completed within 30 days
- Level 1 Assessment
 - ♦ Completed by person responsible for PWS
- Level 2 Assessment
 - ♦ Completed by person authorized by the State.



40 CFR §141.859



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Assessments

- *Sanitary Defect Definition*
A defect that could provide a pathway of entry for microbial contamination into the distribution system, or that is indicative of a failure or imminent failure of a barrier that is already in place



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Assessments

- Sanitary Defects
 - ♦ Identify potential contamination sites or pathways
 - ♦ Correct within 30 days of trigger
 - ♦ Compliance Schedule if unable to meet 30-day deadline.



40 CFR §141.859



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Level 1 Assessment



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Level 2 Assessment



12 rolling months

2nd Level 1

=

E. coli MCL violation

Level 2 Assessment
(Done by State or State-authorized entity)
30 Days to fix or develop plan



Level 2 Assessment

Nevada Division of Environmental Protection
Bureau of Safe Drinking Water
501 South Stewart Street, Suite 4001, Carson City, NV 89701 | Phone: 775-687-6521 | Fax: 775-687-6599 | Email: EData_BSDW@ndep.nv.gov

Level 2 (Population >1,000) Assessment Form

System Name: _____ PWSD # _____

PWS Address: _____ SYSTEM TYPE (CIRCLE):
(Street) _____ C _____ Community
(City) _____ NTWC _____ Non Transient
(ZIP) _____ T _____ Transient

Source Water Facility Codes: _____ Population Served: _____
(Please insert if above information is incorrect)

Operator or Responsible Charge (ORC): _____ Phone: _____
Address, City, State, Zip: _____

Person that collected micro samples if different than ORC: _____ Phone: _____
Address, City, State, Zip: _____ Date Assessment Completed: _____

(Please answer each item in the groupings provided. If not applicable write "N/A". If "yes" (Y) please indicate how, & corrective action(s) taken including date on a separate page. If not, please leave blank.)

Questions	Reviewed and checked (Type "Y" if inspecting, "N/A" if not)	Is the Discharge?	Corrective Action Taken (including Date)
1. Have any of the following occurred within the system prior to the collection of samples? (Check all that apply)			
a. Has the system experienced pressure drops lower than the state operating pressure? If yes, when? (Indicate event or operating pressure)			
b. Were there any high pressure water tapping operations (e.g., fire hydrant use, etc.) if yes, when?			
c. Have there been any pipe or water main breaks? If yes, when?			
d. Have there been any plumbing fixture repairs or additions? If yes, when? (Indicate the repair or addition)			
e. Were there any operation and maintenance activities that could have contributed to the problem?			
f. Were there vandalism or unauthorized access to facilities?			
g. Were there any other unusual circumstances?			
h. Is there any evidence of intentional contamination to the distribution system?			
i. Have you used your pump to water treatment or not on page?			
j. Have the water lines been replaced or repaired for historic water quality, and maintenance reasons? If yes, describe what was done.			
k. Have you been notified?			



Level of Effort – Level 1 vs. Level 2

- Level 1:
 - ♦ Conducted by the PWS
 - ♦ Primarily completed using existing data
 - ♦ May include limited inspections or interviews
- Level 2:
 - ♦ More comprehensive review of existing data
 - ♦ May include field investigations, additional sampling, and inspections
 - ♦ May involve consultation with additional parties
 - ♦ Assessment must be conducted by the state or party approved by the state



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Example Great Basin Estates

- July 2016 TC+
3 Repeats, 1TC+
- Level 1 Assessment Triggered
 - ♦ PWS Found Sampling Technique, updated SOP, problem fixed
- May 2017 TC+
3 Repeats, 1TC+
- Level 2 Assessment Triggered



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Example

Great Basin Estates

Level 1 Assessment

- Completed Checklist
 - ♦ Sampling Technique valid finding

Level 2 Assessment

- Found hole in casing of well
 - ♦ System fix within 30 days.
 - ♦ Schedule of Compliance with interim measures.



Example Large Community System

- Population 275,000 Samples 180
TC+ 7 in 1 day!
- Each TC+ required 3 repeat samples
TC+ on day 2
 - ♦ What would 28 TC+ trigger?



Example Small Community System

- Population 1,350
TC samples monthly 5
- 1 TC+ Routine August
 - ♦ 1 TC+ Repeat
 - ♦ Triggers Level 1 Assessment
 - 1 TC+ Routine October
 - ♦ 3 TC+ Repeats
 - ♦ Triggers ???



Example Small Non-Community System

- Population 500
- Quarterly sampling
- TC+ in May
 - ♦ Repeats clear
 - ♦ 3 samples required June (all clear)
- July, back to quarterly schedule



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Example Small Community System

- 1 TC+
- 3 Repeat Samples
 - ♦ 1 TC+
- Treatment Technique Triggered
 - ♦ Suspected extreme drawdown in storage tank
 - Adjusted SCADA to keep tank levels higher
- No further problems



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Monitoring and Assessment ??

- Population?
- Samples required?



Small Non-Community System

- Population 60 1 Sample Monthly
- E. coli hit
- 3 Repeats required
 - ♦ 0 TC+
- Triggers?



Assessment Strategy

Assessment Forms Ask

Have any atypical events occurred?

Have there been any system changes?

Evaluate sample site

Evaluate sample protocol

Assess distribution system facilities

Assess storage tanks

Assess treatment process

Assess source



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Help Wanted

- **Review Level 1 Checklist**
 - ♦ **Need your thoughts**
 - ♦ **What will help you?**
- **Inputs required by January 15**



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Seasonal Systems

- Start-Up Procedure Required
 - ♦ For systems that do not maintain a pressurized distribution system year-round
 - ♦ Includes bacti sampling
- Complete prior to serving water to the public
- Submit certification of completion to BSDW



40 CFR §141.854



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Seasonal Systems

- Bacteriological (Coliform) sampling required
- Two consecutive days of clean Coliform samples to verify system is clean and secure.
 - ♦ NAC 445A.67265 and 445A.6727
 - ♦ Cite AWWA 651



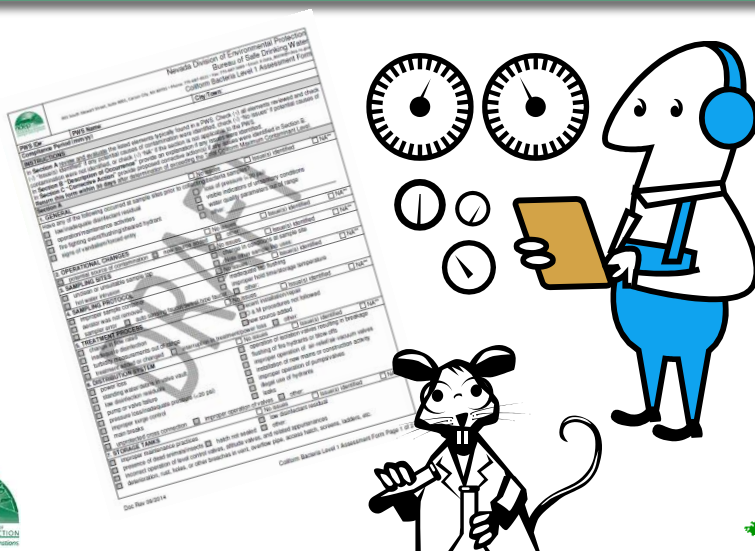
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Seasonal Systems

- Seasonal Start-up Procedure
 - ♦ Required April 1, 2016
- Seasonal Start-up Certification
 - ♦ Checklist and Certification
 - ♦ Send to BSDW with Coliform Sample Report
- Recommend Test Run Prior



Seasonal Systems Before Every Season



Help Wanted

- **Review Seasonal Start-up Procedures**
 - ♦ What do you do currently?
 - ♦ What would help you?
 - ♦ What is NOT useful?
 - ♦ Why?
- Inputs required by January 15



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Site Sampling Plans

- Required of all systems
- Must be used in Routine and Repeat sampling
- Must be on file with State by 03/31/2016
- Existing Sampling Plans likely to change



40 CFR §141.853



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Site Sampling Must-Haves

- Essential Components
 - ♦ Routine Sample Site(s)
 - ♦ Repeats relative to Routines
 - Within 5 connections upstream
 - Within 5 connections downstream
 - Or alternative representative of the distribution system, approved by the State.
 - ♦ Site Map showing sites and system components



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Site Sampling Narrative

- Narrative that includes all the following:
 - ♦ Population (compare against chart in Quick Reference Guide)
 - ♦ Routine sampling schedule
 - ♦ Routine sample sites identified
 - ♦ Repeat sample sites identified
 - ♦ Temporary Routine sample sites identified
 - ♦ Groundwater Rule requirements specified



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Site Sampling Locations

- General Schematic that includes the following:
 - ♦ Source water location(s) (wells, springs, lakes, streams, etc.)
 - ♦ Storage facility location(s) (water tanks, pressure tanks, etc.)
 - ♦ Routine, Repeat & Temporary Routine sample sites
 - ♦ Distribution system
 - ♦ Treatment systems, pumping system locations, if applicable



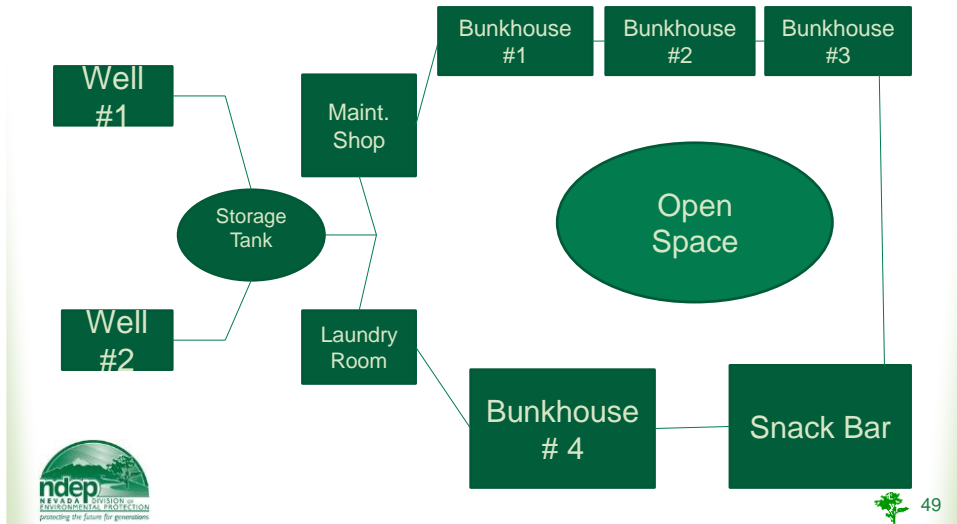
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Site Sampling Schematic



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Site Sampling Schematic



Questions?



Public Notification & Consumer Confidence Report Requirements



Tier 1 & 2 PN Requirements

Tier	Violation
Tier 1	Has an <i>E. coli</i> -positive repeat sample following TC+ routine sample
	Has TC+ repeat sample following an <i>E. coli</i> -positive routine sample
	Fails to take all required repeat samples following an <i>E. coli</i> -positive routine sample
	Fails to test for <i>E. coli</i> when any repeat sample is TC+
Tier 2	TT violation resulting from failure to perform Level 2 assessment or corrective action
	TT violation resulting from failure to perform Level 1 assessment or corrective action
	Failure of non-community seasonal systems to complete state-approved start-up procedure prior to serving water to the public

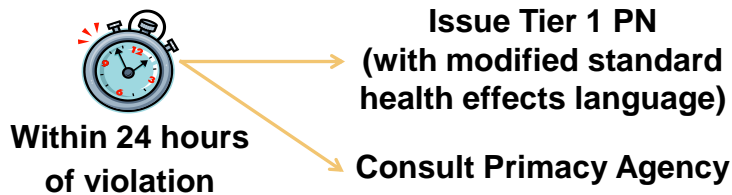
Tier 3 PN Requirements

Tier	Violation
Tier 3	Monitoring Violations:
	Failure to take every required routine or additional routine sample.
	Failure to analyze for <i>E. coli</i> following a total coliform-positive routine sample.
	RTCR Reporting Violations:
	Failure to submit a monitoring report or completed assessment form after a system properly conducts monitoring or assessment in a timely manner.
	Failure to notify the state following an <i>E. coli</i> -positive sample in a timely manner.
	Failure to submit certification of completion of state-approved start-up procedure by a seasonal system.
<small>ndep</small> 40 CFR 141.860(c) & (d); Appendix A to Subpart Q – I.A.1.b & I.A.2.b <small>53</small> <small>NEVADA DIVISION OF ENVIRONMENTAL PROTECTION</small> <small>protecting the future for generations</small>	



Tier 1 PN Requirement

- E. coli* MCL violation = Tier 1 PN



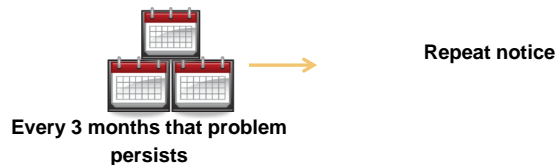
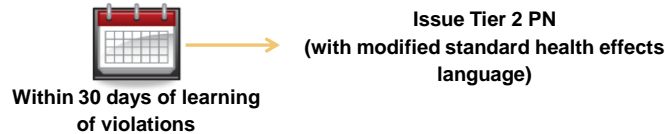
- Repeat notices: timing, form, manner, frequency, and content established by the primacy agency
- Systems must comply with any additional PN requirements



- 40 CFR 141.202(a)-(b)

Tier 2 PN Requirement

- No monthly *E. coli* MCL violation
- TT violations = Tier 2 PN



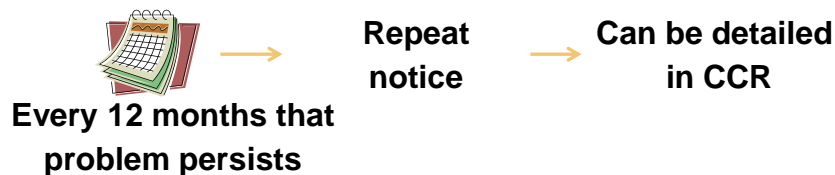
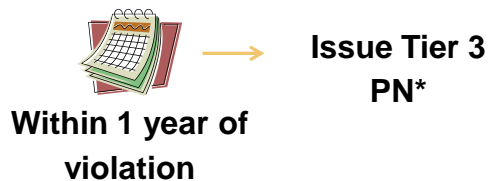
- 40 CFR 141.203(a)-(b)



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Tier 3 PN Requirement

- Monitoring violations and reporting violations



- * Tier 3 PN can be issued in the CCR if it is distributed within 12 months of the violation.



- 40 CFR 141.204



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Health Effects Language

- Total Coliform Bacteria
- Fecal Coliform and *E.coli*
- *E.coli*
- Coliform and *E.coli* Assessment and/or Corrective Action Violations
- Seasonal System TT Violations



- 40 CFR 141, Appendix A to Subpart O
- 40 CFR 141, Appendix B to Subpart Q



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Health Effects Language

E. coli MCL Violation

Tier 1

“*E. coli* are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely compromised immune systems.”



40 CFR 141, Appendix B to Subpart Q –1g



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Consumer Confidence Reports (CCR)

- CWS must report
 - ♦ Until March 31, 2016
 - Total coliform, fecal coliform & *E. coli*: number or percentage of positive results
 - ♦ Starting April 1, 2016
 - *E. coli*: number of positive results
 - Level 1 or Level 2 assessment language



- 40 CFR 141.153(c)(4); 141.153(d)(4)(vii), (viii), & (x)



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CCR – Case Specific (cont.)

- CCR elements depend on the following case situation:
 - ♦ For systems required to comply with L1 and L2 assessment (not due to an EC MCL violation) requirements
 - ♦ For systems required to comply with the L2 assessment requirement due to an EC MCL violation
 - ♦ For systems that detected EC and has violated the EC MCL
 - ♦ For systems that detected EC but did not violate the EC MCL
- NOTE: Definitions for Level 1 and Level 2 assessments are in 40 CFR



- 40 CFR 141.153(h)(7)(i), (ii), (iii), & (iv)



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Lead Free Act Amendments

Reduction of Lead in Drinking Water Act
Community Fire Safety Act
(LCB Sections 1, 7, 8, 9, 10, & 12)



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Lead Free Act Amendments

- LCB Section 1
 - ♦ Reduction of Lead in Drinking Water Act
 - ♦ Community Fire Safety Act
- LCB Section 7
 - ♦ Determined to be Compatible with Drinking Water
 - Add ANSI/NSF Standard 372 to existing requirement for compliance with Standard 61



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Lead Free Act Amendments

- LCB Section 8- NAC 445A.66085 is hereby amended to read as follows:

"Lead-free" means, with regard to:

 1. Solder and flux, that not more than 0.2 percent of the composition of the solder or flux is lead.
 2. Pipes , [and] fittings [,] **and fixtures**, that not more than [8] **a weighted average of 0.25** percent of the composition of the **wetted surfaces of the** pipe , [or] fitting **or fixture** is lead [,] , **as calculated in accordance with Standard 372 of the National Sanitation Foundation International, as adopted by reference in NAC 445A.6663.**
 3. **Gate valves which are 2 inches in diameter or more, service saddles and fire hydrants, that:**
 - (a) **Not more than 8 percent of the composition of the gate valve, service saddle or fire hydrant is lead; and**
 - (b) **The gate valve, service saddle or fire hydrant complies with Standard 61 of the National Sanitation Foundation International, as adopted by reference in NAC 445A.6663.**



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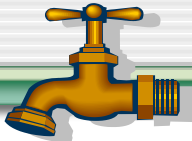
Lead Free Act Amendments

- Section 9
 - ♦ Adopt by Reference-Standard 372 & UPC
 - ♦ 372-Lead Content (0.25%of Wetted Perimeter)
- Section 10
 - ♦ Comply with Adopted References-Standard 372 & UPC
- Section 12
 3. Any pipes, fittings, **fixtures**, solder , **[or]** flux , **service saddles, fire hydrants and gate valves** used in the installation or repair of a public water system must be lead-free . **[and comply with section 316.1.3 of the Uniform Plumbing Code.]**

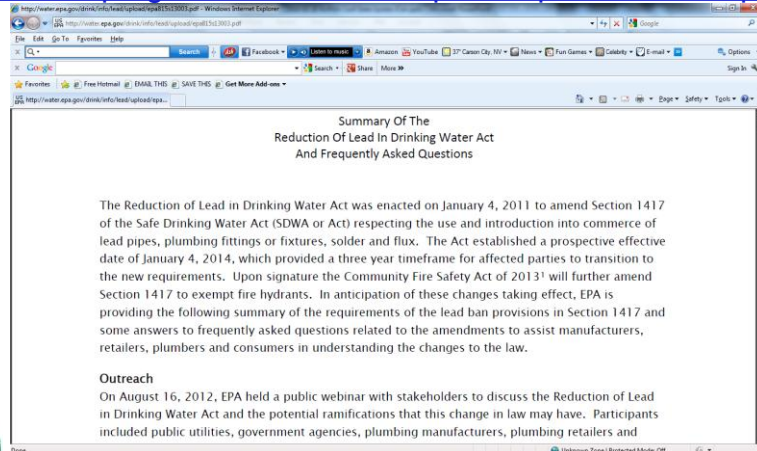


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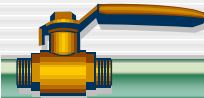
LRA Summary and Frequently Asked Questions



<http://water.epa.gov/drink/info/lead/upload/epa815s13003.pdf>



How to Identify Lead Free Certification Marks



<http://nepis.epa.gov/Adobe/PDF/P100GRDZ.pdf>



Design, Construction, Operation & Maintenance (DCO&M)

Proposed Amendments to NAC 445A.65505 to 445A.6731, inclusive

(Beginning at LCB Sec 9, 10, 11, 12, 13, 14, 15)



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DCO&M

- Section 9 (NAC 445A.6663)- Adoption by Reference of Manuals

Manual	Current Regulation	Proposed Regulation
AWWA	February 20, 1997	July 1, 2014 (or most current)
ANSI & NSF	February 20, 1997	July 1, 2014 (or most current)
D3212	February 20, 1997	July 1, 2014 (or most current)
21 CFR 177.2420	February 20, 1997	Removed
Manual of Cross Connection Control	Ninth Edition	Tenth Edition
Recommended Practice for Backflow Prevention and Cross-Connection Control	1990 Edition	Third Edition



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DCO&M

Section 9 (NAC 445A.6663)- Adoption by Reference of Manuals

Manual	Current Regulation	Proposed Regulation
Recommended Standards for Water Works	1992 Edition	2012 Edition
Standard Methods for the Examination of Water and Wastewater	19 th Edition	22 nd Edition
Standard Specification for Public Works Construction	1996 Edition	a.k.a Orange Book 2012 Edition
Uniform Design and Construction Standards for Water Distribution Systems	1995 Edition	Uniform Design and Construction Standards for Potable Water Distribution Systems Third Edition
Uniform Plumbing Code	1994 Edition	2012 Edition

DCO&M

- Section 10
 - ♦ Requires PWS to comply with the references mentioned in Section 9
- Section 11
 - ♦ Redaction of ANSI and NSF Standard 54
 - Highlighted Manual M25, which is part of AWWA D130

DCO&M

Section 12

- References language updated
 - ♦ Orange Book and UDACS



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Section 12 DCO&M

Section 12

- Modified language for clarity
 - ♦ Choice of materials
 - Delete “the pipes of” to include that all material selections in the distribution system be based on properties of water and soil
 - Corrosive water-no metal (pipe or other parts)
 - VOC contamination- no plastic or gaskets(pipes or other parts)



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DCO&M

Section 13 and 14

- References language updated
 - ♦ Orange Book and UDACS

Section 15

- References language updated
 - ♦ Manual 14 Recommended Practice for Backflow Prevention and Cross Connection Control



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General Clean-up

- Section 1
- Public Water System Definition
 - ♦ 2011 Legislature adjusted the population cap for Clark County reference to 700,000
 - NRS 377B
 - NRS 377B.040 "Water authority" defined.
 - Revised to reflect appropriate population cap



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General Clean-up

- Section 4, 5, & 6
 - ♦ Updates Location to attain documents & associated cost



Comments or Questions

Bureau of Safe Drinking Water

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Presentation

http://ndep.nv.gov/bsdw/regulation_amendments.htm

